

第32回宇宙エネルギーシンポジウム
32nd ISAS Space Energy Symposium

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資料番号	シンポジウム プログラムNo.	タイトル	著者名
AA0061912000		第32回宇宙エネルギーシンポジウム 32nd ISAS Space Energy Symposium	
AA0061912001	SES-2012-001	X線天文衛星すざく太陽電池パドルの軌道上発生電力解析	嶋田, 貴信・豊田, 裕之・久木田, 明夫・廣瀬, 和之・前田, 良知・満田, 和久
AA0061912002	SES-2012-002	金星探査機あかつき搭載太陽電池パネルの軌道上放射線劣化解析	豊田, 裕之・嶋田, 貴信・高橋, 優・今村, 剛・羽田, 裕子・磯部, 洋明・浅井, 歩・石井, 貴子・塩田, 大幸
AA0061912003	SES-2012-003	次世代電源系要素技術実証機の開発状況	久木田, 明夫・高橋, 真人・島崎, 一紀・小林, 裕希・豊田, 裕之・奥村, 哲平・坂井, 智彦・高橋, 優・村島, 未生・鶴野, 将年・嶋田, 貴信・今泉, 充
AA0061912004	SES-2012-004	3-Port Converter Integrating a Boost Converter and Switched Capacitor Converter for a Single-Cell Battery Power System in a Small Satellite	Uno, Masatoshi・Kukita, Akio
AA0061912005	SES-2012-005	HTV電力系の軌道上運用による設計評価と高度化検討	川崎, 治・辻田, 大輔・市川, 千秋
AA0061912006	SES-2012-006	宇宙往還機の統合推進エネルギーシステム設計と評価に関する研究	中上, 禎章・丸, 祐介・森, 初男・稲谷, 芳文
AA0061912007	SES-2012-007	マイクロ波ポケットへのテーパ型集光器を使用したミリ波空間エネルギー伝送	浅井, 健太・齋藤, 翔平・栗田, 哲志・福成, 雅史・山口, 敏和・小紫, 公也・小田, 靖久・梶原, 健・高橋, 幸司・坂本, 慶司
AA0061912008	SES-2012-008	再使用飛翔体が軌道から帰還する時のゆっくり降下とエネルギー回生	高野, 忠・内山, 賢治
AA0061912009	SES-2012-009	宇宙用電力ワイヤの放電特性	藤井, 治久・竹山, 紘平・中岡, 崇志
AA0061912010	SES-2012-010	Discharge phenomena experiment on patch antenna surface radiating microwave in space environment	Woo, Hyoungwan・Khan, Arifur R.・Masui, Hirokazu・Cho, Mengu・Fujita, Tatsuhito
AA0061912011	SES-2012-011	マウスの生化学検査データの変化が示すELF磁場照射の影響	齊藤, 賢一・吳, 銘芳・邱, 弘緯
AA0061912012	SES-2012-012	The biological effects of microwave irradiation in mouse tumor	Wu, Ming-Fang・Chiu, Hung-Wei・Yang, Hao-Hsiang・Saito, Kenichi
AA0061912013	SES-2012-013	宇宙太陽光発電所のための小型実証衛星用送電アンテナの研究	吉野, 純樹・篠原, 真毅
AA0061912014	SES-2012-014	太陽発電衛星のブレードボードモデルにおける位相誤差による送電性能への影響評価	高橋, 将司・井上, 史也・田中, 孝治・牧, 謙一郎・佐々木, 進・川原, 康介・宮代, 健吾・小紫, 公也
AA0061912015	SES-2012-015	太陽発電衛星の開発政策に基づいて21世紀の民間宇宙活動の展開のシナリオ	コリンズ, パトリック
AA0061912016	SES-2012-016	SPSの発電単価について	朝倉, 啓一郎・中野, 諭
AA0061912017	SES-2012-017	三角錐トラス構造を用いたSSPS用大型反射鏡の構造モデルの検討	北本, 和也・松井, 信・山極, 芳樹・藤田, 辰人
AA0061912018	SES-2012-018	カーボンナノチューブアクチュエータの宇宙応用のための基礎実験	松本, 大地・山口, 哲史・田中, 孝治・山極, 芳樹・牧, 謙一郎・佐々木, 進
AA0061912019	SES-2012-019	月資源利用のためのレーザープラズマを用いた金属酸化物還元法の基礎研究	松井, 信・福路, 直大・中野, 正勝・山極, 芳樹・小紫, 公也・荒川, 義博

AA0061912020	SES-2012-020	Electrochemical Processing of Regolith Simulant	Goto, Takuya・Sakanaka, Masahide・Kumar, Vijaya・Ishikawa, Takehiko・Takayanagi, Masahiro・Fukunaka, Yasuhiro
AA0061912021	SES-2012-021	軽元素含有物による宇宙エネルギーの研究	三浦, 保範・田野崎, 隆雄・宇田川, 暢・佐々木, 進・田中, 孝治・矢野, 創

PREFACE

The 32nd annual ISAS Space Energy Symposium was held at ISAS Sagami-hara on March 1, 2013. The symposium this year had 4 sessions; Spacecraft Power System, Transportation, Wireless Power Transmission/High Voltage Technologies/Environments, and Energy System/Resources related to the space energy system. Totally 21 papers were presented this time.

In the session of Spacecraft Power System, 4 papers were presented; on-orbit performance of a solar paddle of SUZAKU, radiation damage in solar array of Venus explore AKATSUKI, development of on-orbit demonstrator for next generation electric power system called NESSIE, and a 3-port converter integrating a boost converter and a switched capacitor converter for small satellites. 4 papers were presented in the session of Transportation regarding the HTV electrical power system, the integrated propulsion and energy system for a reusable rocket, and millimeter-wave beam energy transmission to microwave rocket. 6 papers were presented in the third session. Among them, 2 papers were dedicated to the discharge phenomena in space; discharge characteristics of power transmission wires for a spacecraft, and discharges on high power microwave antenna. 2 papers were concerning the change of mice biochemical data at ELF exposure, and biological effects of microwave irradiation in mouse tumor. 2 papers were related to the demonstration experiment for SPS; a transmission antenna for a demonstration experiment satellite, and evaluation of the phase error on microwave power transmission for the demonstration experiment satellite. In the session of energy system/Resources, 7 papers were presented in various fields; private space activities scenario based on space-based solar power development, the unit cost for construction and power generation from SPS, structural analysis for a large reflecting SPS mirror, space application of CNT actuator, reduction of metallic oxide by laser plasma for lunar resources use, and electro chemical processing of regolith simulant. In this symposium, two papers concerning slow descent and energy recovery of a reusable vehicle, and extraterrestrial resources were presented but are not included in this open document file by author's requests.

Approximately 37 researchers and students attended the symposium from universities, research institutes, space agencies, and private organizations. Foreign researchers from Taiwan, Republic of China, attended this symposium and presented a paper. In order to save publishing cost, the proceedings of this symposium are not published in printed matter, but the symposium papers are open on the ISAS web site. The coordinators of this symposium will appreciate any comment and advice on the topics for the next Space Energy Symposium in 2014.

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